

REMARKS

A. Introduction

Claims 1-8 were pending and under consideration in the application.

In the Final Office Action of December 4, 2009, claims 1-8 were rejected under 35 U.S.C. §103(a), as being unpatentable over Fukuda et al, U.S. 4,904,569 (hereinafter, "*Fukuda*").

In response, independent claims 1 and 5 are hereby being amended to incorporate subject matter previously recited in former claims 2 and 6, which are hereby being canceled, and claim 9 is being added. Support for new claim 9 may be found, at least, in Figure 2. No new matter is being added.

B. Rejections under 35 U.S.C. §103(a)

Claims 1-8 were rejected under 35 U.S.C. §103(a), as being unpatentable over *Fukuda*.

Fukuda relates to a pattern forming technique for use in fabricating a semiconductor devices. An area on a photoresist film, which is formed on a substrate surface having a topography, is exposed multiple times so that the image plane of a mask pattern is formed at each of several positions. The positions are spaced apart from a reference plane in the substrate in the direction of an optical axis. The photoresist film is then developed to form a resist pattern. *Fukuda*, abstract.

According to *Fukuda*, the intensity distribution of a fuzzy image of a mask pattern formed in a plane spaced apart from the image plane of the mask pattern, has the form of a mountain with a gentle slope and a large foot, and the peak intensity of the fuzzy image is weaker than that of an image formed on the image plane. *Fukuda* provides for a reversible transmission film to interrupt a light quantity less than a threshold value, and become transparent when a light quantity exceeding the threshold value is incident on the film. As a result, when an exposure operation is performed multiple times at different positional relations between the image plane of a mask pattern and a photoresist film, the fuzzy image of a mask pattern is interrupted by the reversible transmission film, and thus does not reach the photoresist film, whereas an image of

the mask pattern which is in focus is formed on the photoresist film through the reversible transmission film. *Fukuda*, 13:51-14:18.

In other words, the reversible transmission film is used to prevent an unfocused image of a mask pattern being formed on a photoresist film on the basis of a topography of a substrate surface or the field curvature of a projection lens, while permitting the formation of a focused image.

Fukuda fails to disclose a saturable absorber configured to allow only a portion of a focused beam having a first cross section to propagate towards a radiation sensitive layer, said portion having a second cross-section smaller than the first cross-section. The Office Action (page 4) asserted that the reversible transmission film of *Fukuda* has the same properties as the saturable absorber of the instant claims. Whether or not the assertion is correct, the foregoing limitation is not met, at least because nothing in *Fukuda* suggests configuring the reversible transmission film to allow only a portion of a focused beam having a first cross section to propagate towards a radiation sensitive layer, said portion having a second cross-section smaller than the first cross-section.

Because this feature is not taught or suggested by the cited prior art, the Office Action fails to establish that the invention as a whole is obvious in light thereof. See MPEP 2143.03. “All words in a claim must be considered in judging the patentability of that claim against the prior art.” In re Wilson, 424 F. 2d 1382, 1385.(CCPA 1970). As a result, independent claims 1 and 5, and claims depending therefrom, claims 3,4, 7, and 8, are patentable over *Fukuda*.

Claim 9 is likewise patentable over *Fukuda*, which fails to teach or suggest directing, at least one beam of radiation having a fundamental frequency, via a medium, towards an intermediate layer, so as to excite at least one third harmonic beam to propagate through at least a portion of the intermediate layer towards a radiation sensitive layer, wherein the radiation sensitive layer is sensitive to third harmonic radiation and is substantially not sensitive to radiation of the fundamental frequency.

C. Conclusion

In view of the foregoing, it is submitted that claims 1, 3-5, and 7-9 are allowable and early notice to that effect is respectfully requested.

If the Examiner believes that, for any reason, direct contact with Applicants' attorney would help advance the prosecution of this case to finality, the Examiner is invited to telephone the undersigned at the number given below, for purposes of arranging for a telephonic interview. Any communication initiated by this paragraph should be deemed an Applicant-Initiated Interview.

If any further fees are required in connection with the filing of this amendment, please charge the same to our Deposit Account No. 19-3140.

Respectfully submitted,

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